

rainbow
professional



shaping your environment

Rainbow Biodegradable Spiral Tree Guard

General Product Information

Rainbow Spiral Tree Guards have now been used throughout Europe as the main protector of young trees for over 25 years. Rainbow started manufacturing Spiral Tree Guards that are 100% biodegradable in July 2018. Rainbow fully recognises the growing desire to reduce and even stop the use of standard plastics in the forests and has been instrumental in a number of field trials across Europe using biodegradable materials for various tree and seedling protection as well as for tree tying applications.

The development of biodegradable plasticisers and stabilisers suitable for forestry applications has allowed Rainbow to push ahead within this area of requirement. This has now resulted in biodegradable polymers being suitable at the range of temperature extremes found in the forests along with the typical levels of UV radiation also found.

The main function of the spiral tree guard is to protect young trees from destruction by animals. The following table shows the required size for maximum protection from specific animals.

ANIMAL	LENGTH OF SPIRAL
Rodent	45cm
Rabbit	60cm
Hare	75cm
Possum/Sheep/Deer	100cm -150cm

Rainbow's Spiral Tree Guards are supplied in a variety of colours, usually selected by the required aesthetic appearance. However an opaque version is available when increased UV light is needed to encourage side stem growth. A slightly coloured Green-tint version is also available, which reduces scorching that can occur when using clear Spiral Tree Guards in high UV areas. Early versions of this Green-tint spiral were used in forested areas where minimal UV light was available to break down the spirals in the required 4-5 years. White spirals are available for areas with extremely high levels of UV or where high factors of colour reflectivity are required

Rainbow Spiral Tree Guards are manufactured with ventilation holes as standard, which we recommend using to minimise mildew damage. However should weed control be necessary around the young tree using sprayed herbicides, we recommend a Spiral Tree Guard without any ventilation holes which can be manufactured upon request.

The standard Spiral Tree Guard is 38mm in diameter, which is sufficient for most 1-2 year old trees, for bushier trees and ferns, we recommend using the 50mm diameter version, or even the 68mm diameter option.



On most applications a bamboo cane is recommended to help the young tree against strong winds and to keep the Spiral Tree Guard in place. The bamboo cane should be the same length as the Spiral Tree Guard in use, with one third of the canes total length being inserted into the ground, and remaining inside the Spiral Tree Guard, along with the young tree.

Rainbow's Spiral Tree Guards are extremely easy to install, to make sure the spiral is installed correctly the Spiral Tree Guard has a unique design with the ventilation holes forming the shape of an arrow pointing upwards to show the correct way round for fitting the spiral tree guard to the tree. This unique design removes the possibility that the Spiral Tree Guard will be installed incorrectly which can cause the tree to be strangled. This is especially the case in fast growing species such as the Poplar.

These factors have combined to make Spiral Tree Guards the easiest to install, and most economical to use of all Tree Guards. The Spiral Tree Guards are coiled together in 4's which means they require less space for storing and transportation to site. Each box comes complete with an easy to follow installation guide.

Product Specification

Name:	Rainbow Spiral Tree Guards
Material:	Polylactic Acid with UV stabilisation system
Sizes:	Manufactured in Nominal diameters of 38mm (1 1/2"), 50mm (2") and 68mm (2 5/8") with lengths from 150mm (6") to 1200mm (4') Tolerance on length +/- 12mm (1/2")
Colours Available:	Brown, Opaque, Black, White, Grey, Green, Orange, Green Tint.

First Aid

Eye Contact:	Not applicable
Skin Contact:	No harmful effects
Inhalation:	No effect
Ingestion:	No harmful effects

Protective Equipment

Eye Protection:	Eye protection is recommended when installing the Spiral Tree Guards due to risk of tree top shoots entering the eye.
Skin protection:	Wear Protective Gloves for installing Spiral Tree Guards to remove risk of cuts on fingers during quick multi-opening of the Guards on large installations

Fire Protection

Ignition Temperature 338°C

In the event of fire use CO2 Foam as preferred material.

When on fire PLA will give off Carbon Monoxide Gas so avoid all fumes and breathing apparatus must be used.

Storage And Handling

Highly stable product below 60°C
Cartons not to be stacked more than 6 high

Physical Properties

Tensile Strength	263 Mpa
Glass transition Temperature	60°C
Specific Gravity	1.36 kgs/cm ³

Resistance To Chemicals

PLA is soluble in Chlorinated Solvents, Benzene and Dichloromethane.
It is however insoluble and largely stable to Acids, Oils, Greases, Petrol, Water and Alcohols.

Environmental Issues

The material used in the manufacture of Rainbow Biodegradable Spiral Tree Guards have passed all required tests from EU Guidelines at an independent laboratory to be classified as fully compostable. The material has gained the DIN CERTCO certificate.

Instructions For Installation

(Especially when used on fast growing species)

Overlapping Spiral Tree Guards must be placed around the tree so that the outer edge of the guard is above the inner. The tree must be able to expand the guard at the base, if in doubt, a thumb and fore finger can be placed within the spiral and expanded to check that the spiral can open out freely so not to risk tree strangulation.

When Spiral Tree Guards are wrapped around the tree rather than simply dropping on very young shoots, the guard should be held so that the outer edge is above the inner, then wrapped around the tree. The bottom and top should then be held and the top of the spiral given a short pull. Upon letting go, the spiral will then assume the correct position for future expansion.

If trees are growing fast, e.g. Poplar or Willow, cane and guards may, in some circumstances, need manual removal as photo degradation/cane rotting may not have begun prior to constriction of tree.